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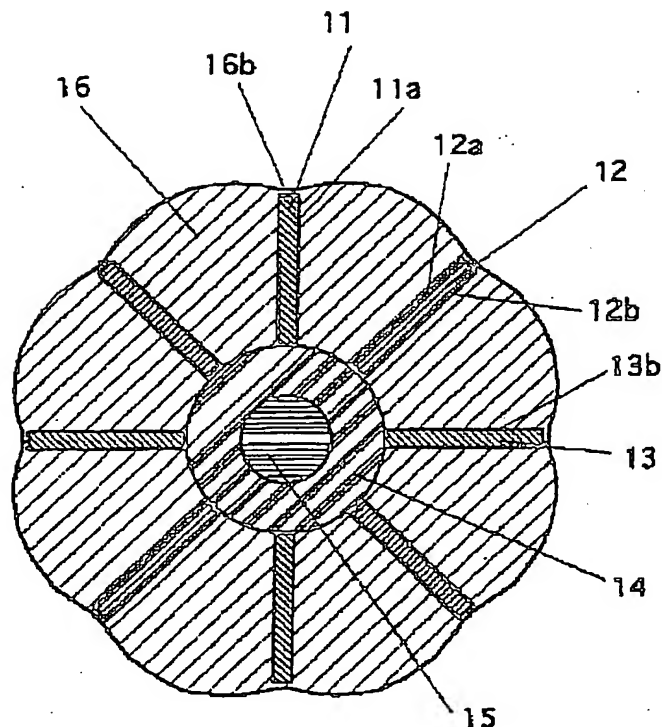
APPLICATION NUMBER : 10324713

APPLICANT : MATSUSHITA ELECTRIC IND CO LTD;

INVENTOR : ASANO YOSHINARI;

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TITLE : PERMANENT MAGNET MOTOR



ABSTRACT : PROBLEM TO BE SOLVED: To provide a low-noise, high-efficiency permanent magnet motor by making good use of the surface magnetic flux of the permanent magnets in the rotor core of the motor.

SOLUTION: A motor is composed of a rotor core 16 and permanent magnets 11 which are embedded in the rotor core 16. The permanent magnets 11 are formed by placing radially plate-shaped permanent magnets magnetized in the direction of width, and the rotor core 16 is so formed that the outer diameter of the rotor core is made larger at the center of the magnetic poles and smaller at the boundaries between the poles. Furthermore, the width of the portion (bridge) 16b between the outer diameter-side end of the plate-shaped permanent magnets 11 and the rim of the rotor is uniformized, and the rim of the rotor other than the bridge is composed of arcs, the radius of which is smaller than that of a circle on which the rim of the rotor is inscribed. As a result, the mechanical strength of the rotor core is maintained, magnetic flux going inside the rotor core is reduced, and distortion of induced voltage is lessened. Thus a high-efficiency motor with a smaller number of magnets is provided, because the permanent magnets make effective use of magnetic fluxes on both the sides.

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